

DEVELOPMENT PROGRAM FOR SMARTGRIDS IN SLOVENIA

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The concept of Smart Grids builds upon the modern concept of operation and power system planning. By joining classical (large centralized generation units, a transmission and distribution network) and new elements (distributed generation, advanced metering infrastructure, demand side management, virtual power plants, electric vehicles and energy storage systems), SmartGrids creates an effective system.

The success of SmartGrids – an extremely complex and broad area – requires coordinated and comprehensive action in all fields. The development of SmartGrids in Slovenia focuses on a ten-year period until 2020. Our objective for this period is to actually introduce technologies that have already been developed. Markets offer technical solutions but we lack concepts for their optimal application and integration into existing networks. The aim of this program is to introduce the existing technologies in practice, and, to this end, it provides an elaborate structure of the necessary tasks, research, operations and mass implementation, which will in turn deliver an effective operational concept of SmartGrids by 2020.

According to our estimates, around €320 million will have to be invested in SmartGrids by 2020 in order to attain the program's objectives. Investment in research is most intensive in the first three years when we have to prepare for the implementation of specific demonstration projects. Between 2014 and 2015, the emphasis is placed on demonstration projects, while investment in mass implementation peaks in the period from 2015 to 2019, when an investment in advanced metering infrastructure is foreseen. Nearly 90% of the total cost will be devoted to the mass implementation projects. The current plans foresee an investment of €4.2 billion in the distribution network by 2030 but if we introduce SmartGrids this amount can be reduced by €500 million for the same period.

SmartGrids will enable Slovenia to meet its environmental commitments and at the same time reduce the required investment in the network. Slovenia has a very strong industry in the segment of SmartGrids that is in urgent need of a testing ground for its solutions in a real network. Furthermore, SmartGrids are among the fastest growing global markets. Many large companies in Slovenia that are active in the area of SmartGrids, such as Kolektor Group, Iskra MIS, Iskraemeco, Iskratel and Gorenje, consider SmartGrids to be an excellent business opportunity. Since SmartGrids are complex and highly innovative, they are also a niche market for numerous small and innovation driven companies. There are many such potential businesses in Slovenia and there is room for many more. SMEs are the vehicle of economic development and growth in European countries.

To conclude, a few facts that are often misinterpreted:

- *investment in the primary equipment (lines, transformers) will still be needed - SmartGrids allow only for better utilization of these equipment;*
- *new elements (renewables, electric vehicles, ...) required additional investment in the network – network development and maintenance is becoming more expensive (each kW of renewables means on average €450 additional investment in the network).*

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